INDIVIDUAL DIFFERENCES IN RESPONSE TO THE PANICOGENIC EFFECTS OF CCK-4. J. Bradwejn and D. Koszycki. Psychobiology and Clinical Trials Research Unit in Anxiety, The Clarke Institute of Psychiatry, 250 College Street, Toronto, Ontario, Canada M5T 1R8.

Systemic administration of the CCK-B receptor agonists, CCK-4 and pentagastrin, reliably and dose-dependently provoke panic attacks in humans. Evidence suggests that the effect of these peptides are pathology-specific as subjects suffering from an anxiety disorder show an enhanced sensitivity to their administration. In animals, individual differences reflected by temperamental type seem to influence response to CCK-B agonists. For example, submissive and restless vervet monkeys, usually excessively reactive to the environment, show a greater behavioral response to CCK-4 than other conspecifics. In patients with panic disorder, social introversion, as measured by standard personality inventory, the MMPI, captures some of the behavioral response to CCK-4 injections. The association between behavioral response to CCK-4 and social introversion is interesting considering recent data suggesting that behavioral inhibition, a laboratory-based temperamental category characterized by the tendency to constrict behavior in unfamiliar situations, may be associated with a risk for anxiety disorders in children.

Administration of 50 µg of CCK-4 provokes panic attacks in about 50% of normal subjects. A comparison of panickers to non-panickers reveals that panickers show a significantly greater elevation in diastolic blood pressure and an exaggerated prolactin, ACTH, and growth hormone response to CCK-4. Prolactin, ACTH and growth hormone are postulated to play a role in response to stress. Furthermore, it is hypothesized that persistently high prolactin levels in humans might account for individual differences in response to environmental stress. In conclusion, some personality traits and neuroendocrine reactivity account for individual differences in response to CCK-4. Their involvement in risk for morbidity, illness prevention and treatment warrants investigation.

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